(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 9 June 2005 (09.06.2005)

PCT

(10) International Publication Number WO 2005/053056 A1

- (51) International Patent Classification⁷:
- H01L 51/30
- (21) International Application Number:

PCT/GB2004/004534

- (22) International Filing Date: 28 October 2004 (28.10.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0325324.2

30 October 2003 (30.10.2003) GB

- (71) Applicant (for all designated States except US): AVECIA LIMITED [GB/GB]; Hexagon House, Blackley, Manchester M9 8ZS (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CUPERTINO, Domenico, Carlo [GB/GB]; P.O. Box 42, Hexagon House, Blackley, Manchester M9 8ZS (GB). MACKIE, Philip, Ross [GB/GB]; P.O. Box 42, Hexagon House, Blackley, Manchester M9 8ZS (GB). YEATES, Stephen, George [GB/GB]; PO Box 42, Hexagon House, Blackley, Manchester M9 8ZS (GB).
- (74) Agents: TEASDALE, Nicola, Joanne et al.; Avecia Limited, Intellectual Property Limited, PO Box 42, Hexagon House, Blackley, Manchester M9 8ZS (GB).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

005/053056

(54) Title: PROCESS FOR IMPROVED CROSS-LINKING OF AN ORGANIC SEMICONDUCTOR LAYER BY USING A PLASTISER CONTAINING OXETANE GROUPS

(57) Abstract: Semiconducting films are formed on a substrate by coating the substrate with a mixture of a semiconducting material (polymer PI) and a substance (plastiser compound 19) which results in a Tg of the resulting mixture which is lower than that o f the said material, and cross-linking the said material. Multilayer electronic devices may be produced by processes which comprise forming a cross-linked semiconducting film on a substrate in this way and forming a layer on the said film by solution or suspension deposition of a second film forming material in which the cross-linked semiconducting film is substantially insoluble in the solvent or suspending agent used in forming the second film. The invention may be used in making, for example, field effect transistors, light emitting diodes (LEDs), organic solar cells and organic lasers.